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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/928,726	08/13/2001	Denny Jaeger	4143/CIP-3	7153

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EXAMINER

EISEN, ALEXANDER

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 04/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/928,726

Applicant(s)

JAEGER, DENNY

Examiner

Alexander Eisen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 17-29 is/are rejected.
- 7) ☒ Claim(s) 12-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Applicant's claim for domestic priority under 35 U.S.C. 120 is acknowledged. However, the parent application upon which priority is claimed fails to provide adequate support under 35 U.S.C. 112 for independent claims 1 and 26 of this application. The parent application does not provide support for the limitations such as "antenna", "one physical control device including resonant antenna means", "means for selectively operating said resonant antenna means to re-radiate said response signal". Therefore the present application's filing date, i.e. 13 August 2001, is considered as a priority date for the claims filed with present application.

Oath/Declaration

2. The declaration is objected to because it erroneously lists the application number, upon which priority is claimed, as 09/670620 instead of 09/670610.

Claim Objections

3. **Claim 1** is objected to because of the following informalities: recites in the line 4 "said field antenna", which apparently should be --said first antenna--, since only "a first antenna" precedes that limitation.

Also, the last line recites "said touch screen assembly", which should probably be --said touch screen system--, since no "assembly" was previously cited.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. **Claims 1, 2, 4-6, 17-20 and 26** are rejected under 35 U.S.C. 102(e) as being anticipated by Liao, US 6,515,654 B1.

With respect to **claim 1** Liao discloses a touch screen system (FIG. 1) having at least one physical control device (sensing pen 20) operating on a touch screen (13) comprising a first antenna (333) secured adjacent to the touch screen (all electrical components are located on the control circuit board 30, which is adjacent to the touch screen 13), and control circuit means (transmitting circuit 33; FIGS. 3A-C) for driving said antenna to generate EM field extending across the touch screen,; the physical control device (pen 20) including resonant antenna means (FIG. 4) for receiving said EM field and re-radiating an electromagnetic response signal (column 3, lines 7-15); means for selectively operating said resonant antenna (switches 220, 230) when said physical control device is touched by a user (column 3, lines 36-38), and for selectively disabling said resonant antenna means when said physical control device is not touché by a user; said control circuit further including means for receiving said response (receiving circuit 34)

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signal and entering a control command into an electronic device operatively associated with said touch screen system (column 3, lines 24-30).

As to **claim 2**, Liao further teaches that the touch screen 13 preferably employs a resistive type touch detection arrangement (column 2, lines 23-25).

As to **claim 4**, Liao teaches that the resonant antenna means includes an inductor (21 in FIG. 4) and a capacitor connected through the switches (220, 230) into a resonant circuit.

As to **claim 5**, the means for selectively operating the antenna resonant means includes finger touch connection (switch 220 in FIGS. 1 and 4; column 3, lines 33-38) means for completing the resonant circuit upon receiving a finger touch.

As to **claim 6**, Liao further teaches that the control circuit includes means (column 2, lines 57-64) for generating a periodic signal for driving the first antenna.

As to **claim 17**, the physical control device in the touch system of Liao is a pen (20).

As to **claim 18**, the pen (20) has a tip (FIG. 1) adapted to selectively (upon a user's action) provoke a touch detection by the resistive touch screen (13), (column 2, lines 19-22).

As to **claim 19**, the resonant antenna (FIG. 4) includes an inductor (21) and a capacitor (22) secured within the pen (column 3, lines 16-18).

As to **claim 20**, the means for selectively operating the resonant antenna includes touch contact means (switch 220) on a barrel portion (FIG. 1) of the pen for completing a circuit between the inductor coil and the capacitor (FIG. 4).

As to **claim 26**, Liao also provides for a method, which includes transmitting an EM field and providing a resonant antenna in a physical control device, the antenna tuned to the EM field, selectively operating the resonant antenna (by switches 220, 230) when the physical control

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device is touched by a user and receiving a response signal and entering a control command into electronic device (see also discussion related to claim 1).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 7-11, 22-24, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liao in view of Yamanani et al., ("Yamanani"), US00RE34187E.

Liao discloses a touch screen system comprising a first antenna secured adjacent to the touch screen; a sensing pen operating on a touch screen; control circuit means including transmitting circuit for driving said antenna to generate EM field extending across the touch screen; the pen including resonant antenna means for receiving and re-radiating an electromagnetic signal; means for receiving response signal, wherein the control circuit means includes means for generating a periodic signal for driving the first antenna.

Liao does not disclose that the control circuit means further includes means for modulating periodic signal, or that the first antenna serves as a receiving antenna for picking up the response signal and extends at least partially about perimeter of the touch screen.

Yamanani teaches a coordinate input system (FIG. 1) having a tablet (1) with coordinate input portion (12) and comprising an antenna coil (13) disposed around the coordinate input range of the tablet, a resonant circuit (22) disposed inside the position designating device (pen 2), wherein modulated radio waves are generated by the antenna coil driven by an oscillator (401),

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counter (402) and mixer (NAND gate 403) and the status of the resonant circuit (switch 221 ON/OFF) is determined by received signal of the same antenna coil when the transmission of the radio waves is suspended (FIGS. 3-4; column 6, lines 36-56).

It would have been obvious to one of ordinary skill in the art at the time when the invention was made to use a single antenna, which is disposed around the coordinate input range, as taught by Yamanani in the touch screen system of Liao, instead of the two antennas of Liao, because it would simplify the touch screen assembly by reducing the number of antenna coils, eliminate the disturbances, which can be caused by the transmitting antenna inducing the signal into the receiving antenna, and improve the noise immunity by using gated receiving tract, wherein the receive signal is processed when the transmission is suspended and therefore cannot influence the receive signal of interest (FIG. 3; column 6, line 57 - column 7; line 2).

As to **claim 3**, the antenna coil (13) is disposed around coordinate input area.

As to **claims 7 and 28**, the control circuit taught by Yamanani includes means for modulating periodic signal A (FIG. 4), which drives the antenna (13). This means can be identified as a mixer (NAND gate 403), which is fed with the unmodulated periodic signal A (FIG. 4), which is equal $\frac{1}{2}$ of the oscillator (401) frequency, and with modulating signal (a second signal from the counter 402), which is equal $\frac{1}{32}$ of oscillator (401) frequency. The resultant output signal from the gate (403) is a modulated signal B (FIG. 3), which drives the antenna.

As to **claim 8**, the antenna (13) is both receiving and transmitting antenna.

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As to **claims 9 and 27**, the means for receiving the response signal from the position designating device (pen) include means for detecting the response signal when the periodic signal is in an OFF state (changeover switches 408 and 409; signals D, E in diagram in FIG. 4).

As to **claim 10**, the means for receiving the response signal includes counter means (counter 402) for detecting the modulated periodic signal. The "1/32" output from the counter (402) controls the changeover switches (408, 409) in synchronism with the modulated signal (see FIG. 3).

As to **claim 11**, the "1/32" output of the counter (402), which controls the changeover switches, is synchronized with the periodic signal A (see diagram in FIG. 4).

As to **claim 22**, the periodic signal A, which is generated for driving the antenna, is unmodulated.

As to **claim 23**, the antenna (13) is both receiving and transmitting antenna.

As to **claim 24**, the means for receiving the response signal from the position designating device (pen) include means for detecting the response signal when the periodic signal is in an OFF state (changeover switches 408 and 409; signals D, E in diagram in FIG. 4).

8. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Liao in view of Sakamoto et al., ("Sakamoto"), US 2001/0005198 A1.

Liao discloses a touch screen system with a pen having a touch contact (button 220) disposed on the barrel of the pen, which can be used to perform a click operation.

Liao does not teach, however, that the button could have a cover to prevent an erroneous operation.

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Sakamoto teaches a mouse having a click button (3) and a cover (2), which can be used for preventing an erroneous operation of the mouse (1) by inadvertently touching the button when not intended to use it (FIG. 1; paragraph [0033]).

It would have been obvious to one of ordinary skill in the art at the time when the invention was made to be motivated by the teachings of Sakamoto and provide a cover for the click button in the pen of Liao, because it could prevent the unintentional use of the button.

9. **Claims 25 and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Liao in view of Morita et al., ("Morita"), US 5,969,712.

Liao discloses a touch screen system with a pen having a touch contact disposed on the barrel of the pen, which can be used to perform a click operation and produce a response signal in addition to a cursor function based on the position of touch detection signal provided by the pen (column 3, lines 30-34).

Liao does not expressly disclose, however, means or a step for correlating the response signal from the pen with the position of touch detection signal.

Morita teaches the coordinate reading apparatus and status converting method having a function selection method, wherein the response signal that provides the status of a switch on a pen is correlated with the touched position signal in order to define a particular function (FIGS. 1-5; column 13, lines 51-67).

It would have been obvious to one of ordinary skill in the art at the time when the invention was made to implement the features taught by Morita into the touch screen system of Liao, because it would allow to realize an apparatus capable of easily setting a particular function to a switch conveniently provided on the pen barrel (Morita; column 2, lines 61-65).

Allowable Subject Matter

10. Claims 12-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: none of the references, either individually or in combination, teach or fairly suggest, the touch screen system as claimed in claim 1 of the invention, wherein the physical control device includes a post assembly, or wherein the post assembly has a base portion adapted to releasably engage the touch screen.

Jaeger et al., US 5,774,115, discloses a circuit control panel having a control device including a post, which can be attached to a display surface, wherein power is inductively transmitted through antenna coils to control device from the back of a transparent cover of the display, and control signals from control device are transmitted back to the display through same antenna coils. Jaeger et al. does not disclose that the response signal from the control device is re-radiated by selectively operating resonant antenna means when the physical control device is touched by a user as required by claim 1.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

SEIKO, JP 11-095903, discloses a touch switch and re-radiating antenna for coordinate input device providing correlation between response (switch status) signal and coordinate position of the input device.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Eisen whose telephone number is **(703) 306-2988**.

The examiner can normally be reached on M-F (9:00 a.m. - 4:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe can be reached on **(703) 305-4709**.

Any response to this action should be **mailed to:**

Commissioner of Patents and Trademarks


Washington, D.C. 20231

or **faxed to:**

(703) 872-9314 (for Technology Center 2600 only).

Hand-delivered responses should be **brought to:** Crystal Park Two, 2121 Crystal Drive, Arlington, Virginia, Sixth Floor Receptionist.

Any inquiry of a general nature or relating to the status of this application or proceeding should be **directed to:** Technology Center 2600 Customer Service Office, whose telephone number is **(703) 306-0377**.



Alexander Eisen
April 23, 2003